

VS Id#	Vital Sign Category			Vital Sign	Network Rank	KAHO
H10	Park Use & Activities			Subsistence Farming/Agriculture	1.2	
H17	Management Zones			Wilderness Areas - HAVO, HALE, other Unofficial	1.1	
P36	Geology	Hazards		Seismicity of Non-Volcanic Origin	1.9	
P41	Geology	Landforms		Permafrost on Big Island summits	0.0	
P44	Geology	Landforms		Cave Geology: karst	0.9	
T35	Terrestrial Ecosystems	Consumers	Population	Established Alien Species - Terrestrial Invertebrate Pests (agricultural)	1.8	
T36	Terrestrial Ecosystems	Consumers	Population	Established Alien Species - Terrestrial Invertebrate Pests (human structures)	1.9	
H05	Land Use			Water Use(s) Within & Surrounding Parks	3.0	5.0
M13	Marine Ecosystems	Water column (motile)	Community	Water Column Marine Vertebrates and Invertebrates Biodiversity	2.8	5.0
M16	Marine Ecosystems	Water column (motile)	Population	Established Turtle Disease & Pathogens	2.9	5.0
M20	Marine Ecosystems	Water column (motile)	Population	Marine Species Protection (T, E, S-o-C species)	3.3	5.0
P18	Soil, Water, & Nutrient Dynamics			Wetlands (incl. anchialine pools) hydrology	3.2	5.0
P26	Water Quality			Ground Water Quality - Microbiology	2.9	5.0
T34	Terrestrial Ecosystems	Consumers	Population	Established Alien Species - Predatory Terrestrial Vertebrates	3.4	5.0
H06	Land Use			Land Use(s) Within & Surrounding Parks	3.4	4.8
M04	Marine Ecosystems	Benthic	Community	Subtidal - Hard Bottom (coral reef, colonized basalt, etc.)	2.7	4.8
M06	Marine Ecosystems	Benthic	Population	Benthic Reef Fisheries / Collected species (inverts: sea cucumbers, pololo worm, corals; etc)	2.7	4.8
M14	Marine Ecosystems	Water column (motile)	Population	Water Column Reef Fisheries	2.2	4.8
M19	Marine Ecosystems	Water column (motile)	Population	Fish Growth/Size and Age Structure, and Recruitment	3.2	4.8
P07	Climate & Air Quality			Weather & Climate	3.4	4.8
P19	Soil, Water, & Nutrient Dynamics			Groundwater dynamics	2.4	4.8
P21	Water Quality			Marine Water Quality Core parameters	3.3	4.8
P22	Water Quality			Surface Water Quality Core parameters	3.6	4.8
P24	Water Quality			Marine Water Quality Supplemental parameters	2.9	4.8
P25	Water Quality			Surface Water Quality Supplemental parameters	3.5	4.8
P29	Water Quality			Ground Water Quality - Toxics & contaminants	2.8	4.8
P30	Water Quality			Marine Water Quality - Toxics & contaminants	3.0	4.8
P31	Water Quality			Surface Water Quality - Toxics & contaminants	3.7	4.8
T13	Terrestrial Ecosystems	Vegetation	Population	Native Plant Species Protection (T, E, S-o-C species)	4.0	4.8
T28	Terrestrial Ecosystems	Consumers	Population	Terrestrial Invertebrates Associated with Habitat Quality	2.7	4.8
T31	Terrestrial Ecosystems	Consumers	Population	Alien Incipient Disease & Pathogens of Terrestrial Vertebrates	2.5	4.8
T37	Terrestrial Ecosystems	Consumers	Population	Alien Incipient Invasives - Predatory Terrestrial Vertebrate	3.3	4.8
T27	Terrestrial Ecosystems	Consumers	Population	Shorebirds and Waterbirds (including T & E spp.)	3.3	4.7
F2	Freshwater Ecosystems	Consumers	Community	Aquatic and Riparian Species (vertebrate and invertebrate) Biodiversity	3.5	4.6
M02	Marine Ecosystems	Benthic	Landscape	Benthic Habitats	2.6	4.6
M03	Marine Ecosystems	Benthic	Community	Benthic Marine Invertebrates and Algae Biodiversity	2.8	4.6
M07	Marine Ecosystems	Benthic	Population	Benthic Marine Invertebrates and Algae	2.7	4.6
M08	Marine Ecosystems	Benthic	Population	Coral Growth/Size and Age Structure, and Recruitment	2.6	4.6
M12	Marine Ecosystems	Benthic	Population	Alien Incipient Invasives - Benthic Marine	2.8	4.6
M18	Marine Ecosystems	Water column (motile)	Population	Water Column Marine Invertebrates	2.8	4.6
M22	Marine Ecosystems	Intertidal	Community	Intertidal Biodiversity - Vertebrates, Invertebrates, and Algae	3.1	4.6
M25	Marine Ecosystems	Intertidal	Population	Intertidal Reef Fisheries / Collected species (limu, opiohi, crabs, fish, etc.)	2.3	4.6
M27	Marine Ecosystems	Intertidal	Population	Established Alien Species - Intertidal Marine	2.5	4.6
P08	Climate & Air Quality			Extreme events (weather & ocean)	3.0	4.6
P20	Water Quality			Ground Water Quality Core parameters	2.8	4.6
P23	Water Quality			Ground Water Quality Supplemental parameters	2.6	4.6
P32	Water Quality			Marine Water Quality - macroinvertebrates	2.8	4.6
T07	Terrestrial Ecosystems	Vegetation	Community	Long-term Plant Succession	3.5	4.6
T08	Terrestrial Ecosystems	Vegetation	Community	Recovery/Change of Native Vegetation with Alien Plant Control	3.5	4.6
T16	Terrestrial Ecosystems	Vegetation	Population	Established Alien Species - Plants	4.0	4.6
T20	Terrestrial Ecosystems	Consumers	Community	Recovery/Change of Native Invertebrates Communities with Native Plant Restoration	2.5	4.6
T21	Terrestrial Ecosystems	Consumers	Community	Recovery/change of Native Wildlife and habitats (including wetlands) with restoration of native vegetation	3.2	4.6
H04	Land Use			Alien Invasive Species Points of Entry	3.4	4.5
H07	Park Use & Activities			Litter/debris	3.1	4.5
H16	Management Zones			Management Zone uses	3.1	4.5
P11	Soil, Water, & Nutrient Dynamics			Biogeochemical Cycles - Nutrient Cycling	2.5	4.4
F1	Freshwater Ecosystems	Producers		Community dynamics of primary producers	2.5	4.3
M11	Marine Ecosystems	Benthic	Population	Established Alien Species - Benthic Marine	2.7	4.3
P27	Water Quality			Marine Water Quality - Microbiology	2.8	4.3
H02	Viewscapes / Lightscapes			Viewsheds	2.7	4.2
M23	Marine Ecosystems	Intertidal	Community	Intertidal - Hard Bottom	2.2	4.2
H09	Park Use & Activities			Footprint & Visitor Use Patterns	3.3	4.1
P33	Water Quality			Surface Water Quality - macroinvertebrates	2.6	4.1
P39	Geology	Landforms		Coastal Shoreline Change (erosion & accretion)	3.2	4.1
H03	Viewscapes / Lightscapes			Lightscape & Night sky	2.7	4.0
H14	Park Use & Activities			Culturally Significant Vertebrate Species Harvest	1.6	4.0
H15	Park Use & Activities			Reef Fisheries Harvest	2.6	4.0
M05	Marine Ecosystems	Benthic	Community	Subtidal - Soft Bottom (sand flat, seagrass bed)	2.4	4.0
M10	Marine Ecosystems	Benthic	Population	Alien Incipient Coral Disease & Pathogens	2.5	4.0
M26	Marine Ecosystems	Intertidal	Population	Intertidal Marine Invertebrates, Fish, and Algae	3.0	4.0
M28	Marine Ecosystems	Intertidal	Population	Alien Incipient Invasives - Intertidal Marine	2.6	4.0
T01	Terrestrial Ecosystems	Vegetation	Landscape	Soil and Pollen Landscape History	2.3	4.0
T29	Terrestrial Ecosystems	Consumers	Population	Terrestrial Invertebrate Species Protection (T, E, S-o-C Species)	2.9	4.0
F5	Freshwater Ecosystems	Consumers	Population	Established Alien Species - Predatory Freshwater (vertebrate and invertebrate)	2.9	3.9
P10	Soil, Water, & Nutrient Dynamics			Ocean/Physical Dynamics: Currents, Sea Level, Tides/Swell	2.7	3.9
P42	Geology	Landforms		Cave Environmental conditions	2.0	3.9
H08	Park Use & Activities			Marine Recreational Activities & Groundings/Anchor Damage	2.5	3.8
T06	Terrestrial Ecosystems	Vegetation	Community	Terrestrial Plant Biodiversity	3.6	3.8
T14	Terrestrial Ecosystems	Vegetation	Population	Established Plant Disease & Pathogens	2.9	3.8
T17	Terrestrial Ecosystems	Vegetation	Population	Alien Incipient Invasive Plants	3.7	3.8
T18	Terrestrial Ecosystems	Consumers	Community	Terrestrial Invertebrate Biodiversity	2.9	3.8
T25	Terrestrial Ecosystems	Consumers	Population	Invertebrate Charismatic or Species of Concern	3.2	3.8
M09	Marine Ecosystems	Benthic	Population	Established Coral Disease & Pathogens (including bleaching)	2.4	3.7
M17	Marine Ecosystems	Water column (motile)	Population	Established Alien Species - Water Column Marine	2.5	3.7
M21	Marine Ecosystems	Water column (motile)	Population	Alien Incipient Invasives - Water Column Marine	2.1	3.7
P06	Climate & Air Quality			Solar radiation	2.7	3.7
T03	Terrestrial Ecosystems	Vegetation	Landscape	Landscape Fragments, Patch Size, Land Cover	2.6	3.7
T30	Terrestrial Ecosystems	Consumers	Population	Established Disease & Pathogens of Terrestrial Vertebrates	2.5	3.7
F4	Freshwater Ecosystems	Consumers	Population	Amphidromous Fauna Size-Age Structure, Reproduction and Recruitment	2.1	3.6
T15	Terrestrial Ecosystems	Vegetation	Population	Alien Incipient Plant Disease & Pathogens	2.6	3.6
T19	Terrestrial Ecosystems	Consumers	Community	Terrestrial Vertebrate (including off-shore islets refugia) Biodiversity	3.3	3.6
F6	Freshwater Ecosystems	Consumers	Population	Alien Incipient Invasives - Predatory Freshwater (vertebrate and invertebrate)	2.8	3.5
M01	Marine Ecosystems	Benthic	Landscape	Coral Growth (erosion & accretion)	2.7	3.5
P01	Climate & Air Quality			Visibility	2.9	3.5
P40	Geology	Landforms		Dune Change (erosion & accretion)	0.9	3.5
T04	Terrestrial Ecosystems	Vegetation	Landscape	Fire Effects & Dynamics: Vegetation and Landscape Level	2.5	3.5
H01	Soundscapes			Alien, Natural, Human Soundscapes	2.6	3.4
M24	Marine Ecosystems	Intertidal	Community	Intertidal - Soft Bottom (sand beach, mudflat, mangrove)	2.6	3.4
T26	Terrestrial Ecosystems	Consumers	Population	Seabirds (including T & E spp.)	3.5	3.4

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F3	Freshwater Ecosystems	Consumers	Population	Freshwater Animals Disease & Pathogen	2.2	3.3
H13	Park Use & Activities			Culturally Significant Plant Harvest	2.5	3.3
T24	Terrestrial Ecosystems	Consumers	Population	Herps (native)	1.7	3.3
M15	Marine Ecosystems	Water column (motile)	Population	Established Marine Animal (other than turtles) Disease & Pathogens	1.9	3.2
P43	Geology	Landforms		Cave Geology: non-karst	2.2	3.2
T41	Terrestrial Ecosystems	Cave Systems	Community	Cave & lava tube communities	2.0	3.2
T38	Terrestrial Ecosystems	Consumers	Population	Alien Incipient Invasives - Fungi	2.0	2.9
P34	Geology	Hazards		Volcanic Unrest - Ground Deformation	1.4	2.6
P37	Geology	Hazards		Seismicity of Volcanic Origin	1.8	2.3
P05	Climate & Air Quality			Atmospheric Particulates: Climate Change Indicators, Human Pollutants, Natural-Volcanic	2.2	2.2
P02	Climate & Air Quality			Atmospheric Deposition: Wet (direct & occult) and Dry	2.1	1.8
P03	Climate & Air Quality			Atmospheric Gases: Climate Change Indicators, Human Pollutants, Natural-Volcanic	2.2	1.8
P04	Climate & Air Quality			Marine Aerosols	1.4	1.0
T02	Terrestrial Ecosystems	Vegetation	Landscape	Ecozone Boundaries	2.1	1.0
T32	Terrestrial Ecosystems	Consumers	Population	Established Alien Species - Feral Ungulates	2.4	1.0
P35	Geology	Hazards		Volcanic Unrest - Lava Flows	1.2	1.0
T23	Terrestrial Ecosystems	Consumers	Population	Forest Birds and Bats (includes T & E spp.)	3.1	0.8
H11	Park Use & Activities			Bio-prospecting Harvest	1.9	0.0
H12	Park Use & Activities			Coral/Sand Mining Harvest	1.2	0.0
P09	Climate & Air Quality			Climate Representations - 2- & 3- dimensional	1.7	0.0
P12	Soil, Water, & Nutrient Dynamics			Soil Erosion	2.9	0.0
P13	Soil, Water, & Nutrient Dynamics			Soil Quality - Biological	1.7	0.0
P14	Soil, Water, & Nutrient Dynamics			Soil Quality- Chemical	1.9	0.0
P15	Soil, Water, & Nutrient Dynamics			Soil Quality- Physical	2.3	0.0
P16	Soil, Water, & Nutrient Dynamics			Soil Crust Change (Arid-Semiarid habitats)	0.9	0.0
P17	Soil, Water, & Nutrient Dynamics			Flowing surface water hydrology	2.7	0.0
P28	Water Quality			Surface Water Quality - Microbiology	2.9	0.0
P38	Geology	Hazards		Mass Geologic Wasting	1.6	0.0
T05	Terrestrial Ecosystems	Vegetation	Landscape	Forest Dieback	1.5	0.0
T09	Terrestrial Ecosystems	Vegetation	Community	Recovery/Change of Native Vegetation with Feral Ungulate Control	2.4	0.0
T10	Terrestrial Ecosystems	Vegetation	Community	Recovery/Change of Native Vegetation with Invasive Alien Invertebrate Control	1.8	0.0
T11	Terrestrial Ecosystems	Vegetation	Population	Invertebrate Biocontrol of Plants	1.7	0.0
T12	Terrestrial Ecosystems	Vegetation	Population	Plant Pathogen Biocontrol of Plants	1.6	0.0
T22	Terrestrial Ecosystems	Consumers	Population	Invertebrate Biocontrol of Invertebrates	1.7	0.0
T33	Terrestrial Ecosystems	Consumers	Population	Established Alien Species - Invasive Terrestrial Invertebrate Pests of natural systems	2.4	0.0
T39	Terrestrial Ecosystems	Consumers	Population	Alien Incipient Invasives - Terrestrial Invertebrates	2.2	0.0
T40	Terrestrial Ecosystems	Consumers	Population	Alien Incipient Invasives - Vertebrates	2.6	0.0